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ABSTRACT

This study explored the relationship between conceptual level, a social cognitive variable, and second language communicative competence. The subjects were female secondary school students in five second-year French classes. The research hypotheses stated that conceptual level was related to the development of communicative competence while foreign language aptitude was related to linguistic competence. Conceptual level was found to be related to both communicative and linguistic competence as was foreign language aptitude. However, foreign language aptitude was not found to be related to linguistic competence when conceptual level was statistically controlled. Conceptual level, on the other hand, was found to be related to communicative competence when foreign language aptitude was statistically controlled. Commonality analysis indicated that most of the variance was due to the joint contribution of conceptual level and the grammatical sensitivity subtest of the MLAT. However, conceptual level uniquely contributes one third of the variance when communicative competence is the criterion. There is preliminary evidence to suggest that the cognitive abilities associated with conceptual level contributed to the development of linguistic competence, while the interpersonal factors contributed to the development of communicative competence. (Author/AMH)

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REASSESSING FOREIGN LANGUAGE APTITUDE:

COMMUNICATIVE COMPETENCE AND

SECOND LANGUAGE ACQUISITION

Paper presented at the 67th Annual
Meeting of the American Educational
Research Association

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In recent years the development of communicative competence has increasingly been cited as the goal of foreign language instruction. Second language communicative competence involves the production of novel utterances which are appropriate to the demands of the communicative situation and which flexibly adapt to changing listener requirements. The abilities which are facilitative of the development of communicative competence may be different from those which have been found to relate to the development of linguistic competence.

In order to determine the abilities which are necessary for second language communicative competence it is first necessary to describe what a learner must be able to do "to function in a truly communicative setting, that is, in a spontaneous interchange involving one or more persons" (Savignon, 1978). Since descriptions of second language communicative competence are absent from the literature, it is necessary to turn to literature on the development of first language communicative competence.

Researchers in this area have found the concept of perspective taking useful in the description of the development of native language communicative competence. Flavell and his colleagues (Flavell et al., 1968) and Glucksberg and his colleagues (Glucksberg, Krauss, and Higgins, 1975) have found that the ability to adapt one's communications to varying listener requirements emerges at a later age and develops at a more gradual pace than linguistic competence. Other researchers (Feffer and Suchotliff, 1966; Delia and Hale, 1976) have found that adults vary considerably in their ability to devise and make use of communicative strategies which are appropriate to different situations and effective in achieving their desired goals. The ability to adapt one's language to changing interpersonal conditions appears to depend not only on one's knowledge of the applicable linguistic and sociocultural

rules for language usage, but also on one's ability to take the perspective of the other person and "read" the requirements of the communicative situation. Even though native speakers are linguistically and sociolinguistically competent, their communicative competence is seen to vary due to differential abilities in these social cognitive domains.

In keeping with this approach to communicative competence, this paper will define second language communicative competence as constructive language use. To be truly communicatively competent in a second language, an individual must "construct" utterances taking into account the other's perspective situational requirements, and cultural norms. The emphasis here is on a speaker's facility to flexibly adapt and manage language productions to changing definitions of the situation, varying role relationships between interactants and different interpretations of what the other person means. This conceptualization suggests that the ability to generate multiple perspectives and to entertain a number of possible relationships among these perspectives would be an adaptive advantage for communicating competently.

This paper will report on a study which sought to distinguish the abilities which are facilitative of foreign language linguistic competence from those which are facilitative of the development of communicative competence and then place the findings within the perspective of current conceptualizations of the processes of second language acquisition.

The study applied the framework of Conceptual Systems Theory (Harvey, Hunt, and Schroder, 1961) to second language learning. Conceptual Systems Theory is a developmentally founded theory of personality development and organization. Individuals are seen to vary on dimensional and integrative complexity. Dimensional complexity refers to the number of perspectives an

individual can generate on a given set of information, while integrative complexity refers to the number and inter-connectedness of the rules the individual uses to organize the different perspectives. Dimensional and integrative complexity taken together are referred to as cognitive complexity. These dimensions and rules are said to mediate between environmental stimuli and behavioral performances. The theory postulates that individual conceptual development moves in the direction of increasing dimensional and integrative complexity of the conceptual system. This developmental continuum is often referred to as concrete-abstract.

Gardner and Lambert (1972) have shown a relationship between learner attitudes and second language achievement; however, the content of the attitudes seems to vary with the context of the language learning situation. The attitudinal complex associated with increasing abstractness suggests an individual who is generally open to acquiring a second language and the associated cultural knowledge. More abstract individuals show low use of stereotypes, low authoritarianism and dogmatism, and low identification with normative American values (Harvey, 1967; Shroder, 1971).

Second language researchers have suggested that empathy (Guiora, Brannon, and Dull, 1972; Horwitz and Horwitz, 1977), creativity (Bartz, 1974), tolerance of ambiguity and risk-taking (Naiman, Fröhlich, and Stern, 1975) are related to the development of second language communicative competence. These same characteristics have also been shown to be behavioral correlates of increasing complexity (Harvey, 1967; Shroder, Driver, and Steufert, 1967).

Hunt (1971) has applied Conceptual Systems Theory to the educational context. His measure of conceptual development known as conceptual level (CL) indexes both cognitive complexity and interpersonal maturity. Four developmental stages are postulated:

Stage 0: The dominant individual characteristic is self-centeredness. The individual does not take into account the thoughts and feelings of others. Typical reactions are impulsive in a "negative unsocialized manner," or defensive.

Stage 1: The dominant concern is with social acceptability. The individual conceptualizes the world in simple dichotomous terms (e.g., right-wrong, good-bad). "He is sensitive to authority figures (teachers, parents) and how they would behave or what they would expect of him in different situations."

Stage 2: The individual is more open to other people's ideas and is more tolerant of uncertainty, ambiguity, and differences of opinion. Although he is more aware of outside perspectives, he makes no attempt to integrate them into his own decision making. "He is very much concerned with his own thoughts and is striving of independence."

Stage 3: The individual incorporates varying perspectives when seeking a solution to a problem because of his "concern for his own and others' ideas and feelings, and about the possible consequences of his decision." He is independent, but seeks compromises to problems if they do not compromise his principles and independence. He accepts full responsibility for his actions, "is aware of himself, of his relationship with others and how they view him." (Stages adapted from Hunt, Butler, Noy, and Rosser, 1978, p. 5)

The purpose of the study was to determine if the social cognitive abilities associated with Conceptual Level contribute to competence in a second language. It was hypothesized that higher conceptual level would be positively related to communicative competence while traditional foreign language aptitude measures would be positively related to linguistic competence.

METHOD

Subjects

Female students attending five second-year French classes in four secondary schools from a large Southwestern school district served as research subjects (N = 61). Subjects ranged in age from fourteen to eighteen,

M = 15.9, and in grade from ninth to twelfth.

The five classes used in the study were chosen after a period of classroom observation and teacher interviews confirmed that creative language use was a functioning instructional goal. All classes devoted approximately one third of class time to oral communication activities during the three observation visits, although the oral activities were handled differently in each class. All the classes followed closely the sequence and activities set out in the textbook, Son and Sens Level 1, (1972). The classes were in the last quarter of the book when the study was undertaken. The four teachers involved had from three to 23 years teaching experience. Two held master's degrees and the other two were engaged in graduate study. One teacher was a native speaker of French (French-Canadian) and another had lived in France. All four teachers used French frequently in the classroom for giving directions and for spontaneous role-playing and conversations.

Instrumentation

Conceptual Level

Conceptual Level was assessed by the Paragraph Completion Method (PCM) (Hunt, Butler, Noy and Rosser, 1978). The PCM is a semi-projective instrument which consists of six incomplete sentences. The incomplete sentences were designed to assess how a person deals with conflict or uncertainty ("Criticism," "Not sure," or "Don't agree") and how he thinks about rule structure and authority relations ("Rules," "Parents," or "Told"). Subjects are told that they have three minutes to add at least three sentences to each stimulus.

Scoring was performed by an experienced rater trained by one of the authors of the Paragraph Completion Manual. Based on the underlying structure, a score of 0 to 3 was assigned to each response. A higher score reflected a more integrated response with multiple perspectives on the stimulus, while a lower score reflected a less integrated response with fewer perspectives. The conceptual level score is the average of the three highest scores. Inter-rater reliability on the PCM typically exceeds r = .85.

Foreign Language Aptitude — Foreign Language Aptitude was assessed by the short form of the Modern Language Aptitude Test (MLAT) (Carroll and Sapon, 1959). The short form includes three multiple choice subtests: Phonetic Encoding, Grammatical Sensitivity, and Rote Memory for Foreign Language Vocabulary. The Phonetic Encoding subtest calls on the subject to decipher an English word which has been written phonetically and then to choose the word's synonym from among five words. In the Grammatical Sensitivity subtest, the subject reads a sentence with one underlined word. The subject's task is to choose from among five underlined words in another sentence, the word which has the same grammatical function (role in the sentence) as the underlined word in the model sentence. In the Rote Memory subtest, the subject is given four minutes to memorize a list of Kurdish words and their English equivalents. Without looking back at the list, the subject must then choose the English equivalent of each Kurdish word from a list of five words. Scoring was performed by the experimenter in accordance with the protocol provided in the test manual.

Linguistic Competence — The Pimsleur Writing Test, French Level 1 (Pimsleur, 1967) was used to assess linguistic competence. This is a standardized discrete-point test of French grammar. Scoring was performed by the experimenter in accordance with the test manual. Level 1 was selected because the grammatical concepts tested corresponded most closely to the grammatical concepts studied during the first two years of French study in this school system (PFWT).

Communicative Competence — Three oral French Tasks, adapted from Bartz (1974), were used to assess communicative competence.

1. Paragraph Task: In the first oral task, the subjects were asked to relate in French the information from a paragraph which they had read in English.

2. Picture Task: In this task, subjects were shown picture 13B of the Thematic Apperception Test (Young Mr. Lincoln). They were asked to talk about the picture first in English and then in French. Subjects were told that they could say anything they wanted about the picture. They could describe it, tell the story behind it, give their feelings, etc. The black and white picture shows a boy sitting in front of an ambiguous wooden structure.

3. Interview Task: Subjects were asked ten questions about themselves in French. Five questions had been taken from oral exercises included in their textbook and five were created for the experimental task using vocabulary and structures which they had studied.

Scoring was performed on number-coded audio-tapes by the experimenter who was blind to the subjects' scores on the other measures. First, the entire set of protocols was listened to to identify the range of subject performance. A global score of from one to five was assigned to the subject's performance on each task. A score of "1" indicated that the subject had communicated essentially nothing in French, and a score of "5" indicated that the subject's performance was outstanding within the range of the group. The experimenter concentrated on amount of communication, fluency (speed and lack of hesitation), the ability to incorporate experimenter cues, and the complexity and length of structures used. A total communicative competence score was computed for each subject by totaling the scores on the three oral tasks.

A reliability check on a random sample of 25 tapes was independently performed by a second rater after listening to a training tape to familiarize herself with the general scoring criteria and the range of the sample. The inter-rater reliability of $r = .81$, $p < .001$ for the total communicative competence score was considered quite acceptable considering rater training had been minimal.

Procedure

The PCM, MLAT, and Pimsleur Writing Test were administered by the experimenter to the individual classes as a group. The oral protocols were administered individually by the experimenter outside of the classrooms during the subject's regular French period and were audio-recorded. When the subjects arrived, the experimenter attempted to put them at ease by casual conversation.

During the first two tasks (relating information about a paragraph, and talking about a picture), the experimenter attempted to be facilitative by smiling, nodding, laughing appropriately, looking interested, and helping

to formulate words. After the subject completed the first task, the experimenter said to all subjects: "That was real good; that's not easy to do." By pretending to speak and understand only French, the experimenter was somewhat less facilitative during the third task (interview), although an attempt was made to help subjects understand with gestures and examples. A friendly demeanor was retained.

Data analysis was performed using version 6.50 of the Statistical Package for the Social Sciences (Nie, Hull, Jenkins, Steinbrenner, and Brent, 1975). Two-tailed tests of significance were applied to the Pearson product moment correlation coefficients and the partial correlation coefficients.

RESULTS

Means and standard deviations for the variables are reported in Table 1.

Table 1

Means and Standard Deviations of Aptitude and Achievement Variables

	CL	MLAT3	MLAT4	MLAT5	MLATTOT	CC	PIMTOT
M	1.56	18.46	20.55	17.70	56.86	8.47	34.37
SD	.33	7.55	8.02	5.24	14.63	2.85	13.03

Note: CL = Conceptual Level; MLAT3 = Phonetic Encoding; MLAT4 = Grammatical Sinsitivity; MLAT5 = Rote Memory for Foreign Language Material; MLATTOT = MLAT Total Score; CC = Communicative Competence; PIMTOT = Pimsleur Writing Test Total Score.

Intercorrelations for the variables are reported in Table 2.

(See Table 2 next page)

Table 2

Intercorrelations of Aptitude and Achievement Variables

	MLAT3	MLAT4	MLAT5	MLATTOT	CC	PIMTOT
CL	.27 *	.57 ***	.24	.54 ***	.54 ***	.48 ***
	(59)	(60)	(60)	(55)	(55)	(59)
MLAT3		.32 **	.04	.71 ***	.19	.12
		(59)	(59)	(59)	(55)	(58)
MLAT4			.26 *	.81 ***	.46 ***	.49 ***
			(60)	(59)	(55)	(59)
MLAT5				.52 ***	.15	.23
				(59)	(55)	(59)
MLATTOT					.40 **	.41 **
					(55)	(58)
CC						.73 ***
						(55)

Note: CL = Conceptual Level; MLAT3 = Phonetic Encoding; MLAT4 = Grammatical Sensitivity; MLAT5 = Rote Memory for Foreign Language Material; MLATTOT = MLAT Total Score; CC = Communicative Competence; PIMTOT = Pimsleur Writing Test Total Score.

*$p < .05$

**$p < .01$

***$p < .001$

Note: n indicated in parentheses.

As can be seen in Table 2, a highly significant relationship (r = .54; p <.001), is found between conceptual level and communicative competence. This finding indicates that more abstract individuals tend to display higher levels of communicative competence. The results also show a significant correlation between foreign language aptitude and linguistic competence (r = .41; p <.01). In other words, higher levels of foreign language aptitude are associated with greater linguistic competence. Grammatical sensitivity appears to be primarily responsible for the relationship between foreign language aptitude and linguistic competence (r = .49; p <.001 between grammatical sensitivity and linguistic competence), as neither phonetic encoding nor rote-memory for foreign language vocabulary is significantly related to linguistic competence (r = .12, p <.38; r = .23, p <.07).

Table 2 also shows a significant relationship between conceptual level and foreign language aptitude (r = .54; p <.001). Since both conceptual level and foreign language aptitude appear to contribute significantly to both communicative competence and linguistic competence, partial correlation coefficients were computed. The partial correlation coefficients permit an assessment of each aptitude's contribution to achievement without the confounding effect of the other. With foreign language aptitude controlled, conceptual level is significantly related to communicative competence (r = .42; p <.002). This finding indicates that conceptual level and communicative competence are associated independent of foreign language aptitude. Controlling for conceptual level, foreign language aptitude and linguistic competence are not significantly related (r = .20; p <.135), suggesting that the relationship between foreign language aptitude and linguistic competence is not indepentent of conceptual level.

To specify more clearly the functioning of the aptitude variables in the

development of linguistic and communicative competence, commonality analyses were performed to examine the unique and common contributions of CL and Grammatical Sensitivity to French achievement. As seen in Table 3, CL and Grammatical Sensitivity together account for thirty-two percent of the variance in the communicative competence score. Of this thirty-two percent, eleven percent is attributable to the unique contribution of CL, three percent to Grammatical Sensitivity, and eighteen percent to their joint contribution. For linguistic competence, eighteen percent of the variance is again attributable to the joint contribution of CL and Grammatical Sensitivity, with an additional five percent attributable to CL and seven percent to Grammatical Sensitivity. These results indicate that most of the apportioned variance in both communicative and linguistic competence is due to the shared variance of CL and Grammatical Sensitivity. However, over a third of the apportioned variance in communicative competence is attributable to the unique contribution of CL. The level of linguistic competence seems to be mainly dependent on elements which CL and Grammatical Sensitivity share. While the shared elements play the largest role in communicative competence, there also appears to be a factor unique to CL.

Table 3

Commonality Analyses

Criterion	R^2	Uniqueness CL	Uniqueness MLAT4	Joint
OCTOT	.32	.11	.03	.18
PIMTOT	.30	.05	.07	.18

Note: CL = Conceptual Level; MLAT4 = Grammatical Sensitivity; CCTOT = Total Communicative Competence Score; PIMTOT = PFWT Total Score.

Discussion

Results from previous research on second language learning and from the present study suggest that several specific components of CL either individually or in conjunction are responsible for the relationship between CL and French achievement. Positive attitudes to other culture groups, low ethnocentrism and authoritarianism, empathy, tolerance of ambiguity, and field independence, variables which have shown previous relationships with second language learning, are also associated with increasing cognitive complexity and interpersonal maturity. Conceptual Level appears to encompass aspects of these characteristics which probably accounts for part of its relationship with French achievement.

How these component variables facilitate second language learning performance can be suggested. Since high CL individuals are able to reorganize information in different ways with high levels of self-awareness, the self-monitoring process in second language production advanced by Krashen (1981) would appear to be aided. Moreover, the high CL individual is more of a risk-taker who would be willing to try language structures. Language production errors therefore could be viewed as incorrect guesses rather than as a source of personal embarrassment. Finally, perhaps one of the most important assets of the high CL individual in second language learning is the ability to generate rules from exanples. No language class can present the entire corpus of a language or its entire set of rules. At some point, students must be able to generate their own rules through contact with the target language. In addition to the ability to generate their own rules, high CL individuals would be better able to deal with the low structure and the high information load of the second language communication situation.

It was argued that two types of foreign language achievement, linguistic and communicative competence were facilitated by two types of foreign language aptitude. The hypotheses stated that the cognitive abilities associated with the Modern Language Aptitude Test (Phonetic Encoding, Grammatical Sensitivity, and Rote-Memory for Foreign Language Vocabulary) would primarily associate with linguistic competence while the cognitive and social psychological abilities associated with conceptual level (integrative complexity and interpersonal maturity) would primarily associate with communicative competence. Although there was support for these aptitude-achievement relationships, the picture of foreign language aptitude which emerges from the data appears more complex than these hypotheses suggest.

Of primary importance is the high inter-correlation among all variables. Since linguistic and communicative competence were found to be strongly related, it appears that the development of communicative competence in French is accompanied by a corresponding development of linguistic competence where communicative competence is clearly a focus of classroom activities. The two aptitude variables were also highly related. Commonality analysis indicated that most of the variance accounted for in the criterion measures was due to the joint contribution of Conceptual Level and the Grammatical Sensitivity subtest of the MLAT. In addition, Grammatical Sensitivity was the only MLAT section which achieved consistent positive significant correlations with the criterion measures. (The only other significant correlation for an MLAT subtest was the relationship $r = .33$, $p < .012$ between Rote-Memory for Foreign Language Vocabulary and Part 3 of the PFWT.) In fact, the addition of Rote-Memory and Phonetic Encoding to form a total foreign language aptitude score attenuated the relationships between Grammatical Sensitivity and French achievement. Grammatical Sensitivity is also the subtest which achieved the highest correlation with CL ($r = .57$, $p < .001$).

This subtest calls on the student to read a model sentence with an underlined word and then to find a word in another sentence which performs the same grammatical function as the underlined word. Although grammatical terms are avoided, knowledge of grammatical categories and the function of words in sentences is required. The student must induce the grammatical rule from the example and then identify another example of that rule.

When linguistic competence is the criterion, almost all of the apportioned variance is attributable to the joint contribution of Grammatical Sensitivity and CL. Inductive reasoning would seem to be one of the abilities common to the Grammatical Sensitivity, CL, and linguistic competence tasks. Tomlinson and Hunt (1972) found that high CL students were better able than low CL students to induce rules from examples and then to apply the induced rules. At least three of the four sections on the PFWT also appear to require inductive reasoning ability. The student must decide which grammatical rules pertain and then apply them.

On the other hand when communicative competence is the criterion, commonality analysis indicates that CL uniquely contributes one third of the variance. It appears that inductive reasoning abilities are not sufficient in performing the communicative tasks. During the oral testing, the student has little time to consciously seek out and apply linguistic rules. Krashen (1981) argues that oral testing reaches an individual's underlying language competence without resort to a conscious application of rules which he calls a monitor. This underlying competence is primarily developed through the language acquisition experiences of listening and reading. He argues that individual cognitive differences primarily affect the development of the monitor through language learning, but they have little effect on the language acquisition process. Individual

differences in language acquisition are due to the amount of comprehensible language input an individual has. Affective differences can, on the other hand, predispose an individual to interacting with the necessary language input. The social psychological characteristics associated with CL--tolerance of ambiguity, empathy, interpersonal maturity, low-ethnocentrism, low-authoritarianism--suggest a person open to the acquisition experiences afforded in the observed classes. Although the evidence presented here is admittedly speculative, there is preliminary evidence to suggest that the cognitive abilities associated with CL, especially inductive reasoning, contributed to the development of linguistic competence, while the interpersonal factors contributed to the development of communicative competence.

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APPENDIX

Sample Responses to Two Paragraph Completion Stems

"What I think about rules..."

Score 0

"I don't like them. Rules are made to break. I feel they are also made to get you into trouble."

Score 1

"Rules are good. They reach us different things. Some rules I don't like because they are too strict. Some rules need to be stricter."

Score 2

"I think some rules are very good but some of them are a little over done. They don't give you a free will to do some things you want to or have to do, to do your best. Some are very useful to us too."

Score 3

"Rules, if they are not too restrictive of my abilities to make my own judgments when the situation warrants it, are okay. I don't need rules for every detail of my life."

"When I am criticized..."

Score 0

"When I am criticized, I will criticize them about something because I don't like to be criticized."

Score 1

"If someone tells me I am doing something wrong I guess I would try to correct myself or if I think I was not I would fight back. I don't think I would get mad at him or her. I would just try to do better."

Score 2

"I usually take what that person has told me and use if for improving what I did or do wrong. Some criticism that is just meant to hurt, I ignore."

Score 3

"I look at myself and wonder if this is constructive criticism. I also look at the person who criticized me and how qualified he/she is to make the statement. Then I weigh all the sides and decide how valuable the criticism is."